



Preliminary Information

PIP5369C Service 4wd Message C0398

Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
Chevrolet	Silverado 1500	2014 - 2018	All	All	All	All
Chevrolet	Silverado LD	2019	All	All	All	All
Chevrolet	Suburban	2015 - 2019	All	All	All	All
Chevrolet	Tahoe	2015 - 2019	All	All	All	All
GMC	Sierra 1500	2014 - 2018	All	All	All	All
GMC	Sierra Limited	2019	All	All	All	All
GMC	Yukon	2015 - 2019	All	All	All	All
Cadillac	Escalade	2015 - 2019	All	All	All	All
Cadillac	Escalade ESV	2015 - 2019	All	All	All	All
GMC	Canyon	2015 - 2019	All	All	All	All
Chevrolet	Colorado	2019	All	All	All	All

Supersession Statement:

This PI was superseded to update model years. Please discard PIP5369B.

Condition / Concern

Some customers may comment on a "Service 4wd" message displayed in the DIC. upon investigation dealer may notice a C0398 in the TCCM along with a U0403 and U0102 in various other modules.

Recommendations / Instructions

Please read this document completely to ensure the best chance of accurately diagnosing and repairing a 0398.

When DTCs set in the TCCM it also causes U0403 to set in various modules along with the U0102. Correct the DTCs in the TCCM first.

When diagnosing a C0398 if there are any other diagnostic trouble codes related to transfer case actuator position sensor (IPS) or rotational position sensor (RPS) diagnose and repair those first.

Please read this document completely to ensure the best chance of accurately diagnosing and repairing a 0398. Please DO NOT program the transfer case control module if the latest software is already installed as that will delete the freeze frame failure records. ONLY data in the freeze frame failure records in vehicles having the latest software/calibration should be utilized.

Starting with 2014 1500 Sierra and Silverado pickups, software changed and changed the default actions when certain diagnostic trouble codes set and the criteria for setting those diagnostic trouble codes. The software then went into 2015 utilities and Colorado and Canyon pickups.

Over the years there were hardware build variations and the software was too sensitive causing some of these diagnostic trouble codes to set intermittently and extremely hard to

diagnose. For any of these vehicles setting a 0398 with any other C code in the transfer case control module diagnose and repair those diagnostic trouble codes first. If the vehicle has a 0398 and is the only C code in the transfer case control module proceed to the following appropriate section based on year and model. Other than what is listed below there should be no need for part replacement on the first visit.

For 2014-2015 Silverado, Sierra and 2015 Tahoe, Suburban, Yukon, Escalade built with RPO NQH and WITHOUT AVF ensure that the transfer case control module has the latest software. This can be identified in tis2web as under the Active Transfer Case tab the software description will be "New calibration (Version 9.2) to address field issue of setting DTC C0398 while being driven in AUTO mode for 1 hour due to the IPS sensor drifting." If the description contains (version 9.2) then go ahead and program the module with that software.

NOTE: if in the calibration history (Version 9.2) is listed in the history and there is a newer version available that also is acceptable.

If the description is "New calibrations for improved operation" and that is the latest calibration and (version 9.2) does NOT show up anywhere in the calibration description history then replace the transfer case control module and reprogram.

NOTE: Not all transfer case control modules will need to be replaced, some modules are unable to path to 9.2 in tis2web.

Some 2016 vehicles may have already received the updated software if SUB 28770 shows to be closed in IVH then the vehicle already contains the latest TCCM software and should not be reprogrammed again.

For 2015-2019 model year full size vehicles built with RPOs NQH and AVF including Silverado, Sierra, Tahoe, Suburban, Yukon, Yukon XL, Yukon Denali, Escalade, Escalade ESV ensure that the transfer case control module has the latest software. This can be identified in tis2web as under the Active Transfer Case tab the software description will be "New calibration (Version 9.2) to address field issue of setting DTC C0398 while being driven in AUTO mode for 1 hour due to the IPS sensor drifting." If the description contains (version 9.2) then go ahead and program the module with that software.

NOTE: if in the calibration history (Version 9.2) is listed in the history and there is a newer version available that also is acceptable.

For 2015-2019 model year mid size vehicles built with RPO NQ6 including Colorado and Canyon ensure that the transfer case control module has the latest software. This can be identified in tis2web as under the Active Transfer Case tab the software description will be "New calibration (Version 9.2) to address field issue of setting DTC C0398 while being driven in AUTO mode for 1 hour due to the IPS sensor drifting." If the description contains (version 9.2) then go ahead and program the module with that software.

NOTE: if in the calibration history (Version 9.2) is listed in the history and there is a newer version available that also is acceptable.

Once the vehicle has the latest software including the (version 9.2) description this should correct all previous issues that could have caused a 0398 to set due to hardware build tolerances. The diagnostic trouble code can still set based on criteria in service information.

Since the default actions now are only current on the key cycle that the diagnostic trouble code set it is possible for the customer to bring the vehicle in stating there was a service 4 wheel drive message but it is not currently displayed. If the diagnostic trouble code is history then go in and look at the freeze frame data and pay close attention to the Range Actuator Position Sensor, Transfer Case Range Position Sensor, Variation Between Transfer Case Range Position Sensor and Range Actuator Position Sensor, Variation Allowed Between Transfer Case Range Position Sensor and Range Actuator Position Sensor.

For issues related to the Range Actuator Position Sensor position that is intermittent then inspect circuits 7473, 7474, 7475, 7476 between the transfer case control module and the actuator motor. Look for terminal tension, backed out terminals, corrosion, missing weather pack connections, and wire crimping.

For issues related to Transfer Case Range Position Sensor position that is intermittent then inspect circuits 7477, 7478, 7479 between the transfer case control module and the sensor. Look for terminal tension, backed out terminals, corrosion, missing weather pack connections, and wire crimping.

The majority of intermittent diagnostic trouble codes are caused by poor wiring connections. Do not replace parts for an intermittent concern before checking all connections on the appropriate circuits.



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